Haddenham & Cuddington Parish Councils

Aylesbury Road (Kings Cross Junction) Haddenham

Junction Review

December 2023

Project Code: 06062-D-RP-001 P02

PJA
The Aquarium
King Street
Reading
RG1 2AN
pja.co.uk

Version Control and Approval

Version	Date	Main Contributor	Issued by	Approved by
P01	15 November 2023	Thanasis Irodotou	TI	SG
P02	14 December 2023	Thanasis Irodotou	SG	SG

Prepared for

Sue Gilbert
Parish Clerk
Haddenham & Cuddington Parish Councils
Parish Council Office
Banks Park
Banks Road
Haddenham, Buckinghamshire
HP17 8EE

Contents

List of Tables

List of Figures

Appendices

1 Introduction

1.1.1 PJA has been commissioned by Haddenham and Cuddington Parish Councils to review the King's Cross Junction located on the A418 Aylesbury Road, which provides a north-south link between the two villages of Haddenham and Cuddington.

1.1.2 The junction provides a connection from the east side of the Haddenham village and a direct connection to Cuddington. Two bus stops are located on Churchway to the south of the Aylesbury Road which are the closest bus stops for residents of Cuddington.

1.1.3 Concerns over the safety of the junction has been raised by both Parish Councils with reports of regular accidents, near misses and poor pedestrian access to and from the bus stops, particularly for Cuddington residents.

1.1.4 The purpose of this report is to initially review the existing junction arrangement in terms of safety and compliance in accordance with the Design Manual for Roads and Bridges (DMRB), and thereafter propose measures aimed at improving the safety of the junction both for the short and long term.

2 The Site

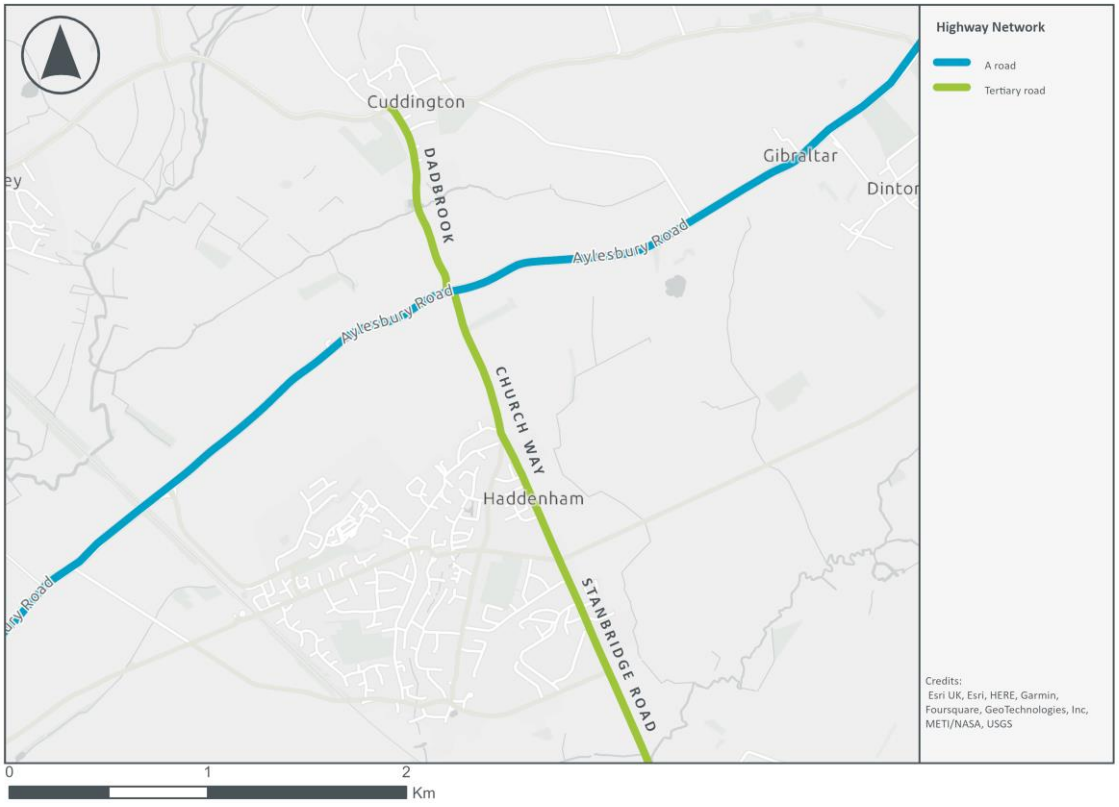
2.1 Site Description

2.1.1 The site is located along Aylesbury Road on the junction with Churchway. Both Aylesbury Road and Churchway have 50mph speed limits and the existing layout comprises of two ghost right turn lane junctions.

2.1.2 Aylesbury Road can be categorised as rural, connecting Aylesbury to Oxford whilst forming a bus route as well as a busy commuter route connecting local communities with Oxford and Aylesbury.

2.1.3 Churchway is one of the links connecting Haddenham to Aylesbury Road from the east, whilst Dadbrook is connecting Cuddington to Aylesbury Road via King's Cross Junction. Figure 2-1 below shows the King's Cross Junction location and the surrounding villages of Cuddington and Haddenham.

Figure 2-1: King's Cross Junction



2.2 Traffic flows

2.2.1 The 2017 planning application for the Land west of Churchway provides some useful traffic flow and speed data from March 2017 which has been extracted from Glanville Transport Assessment submitted as part of the planning application.

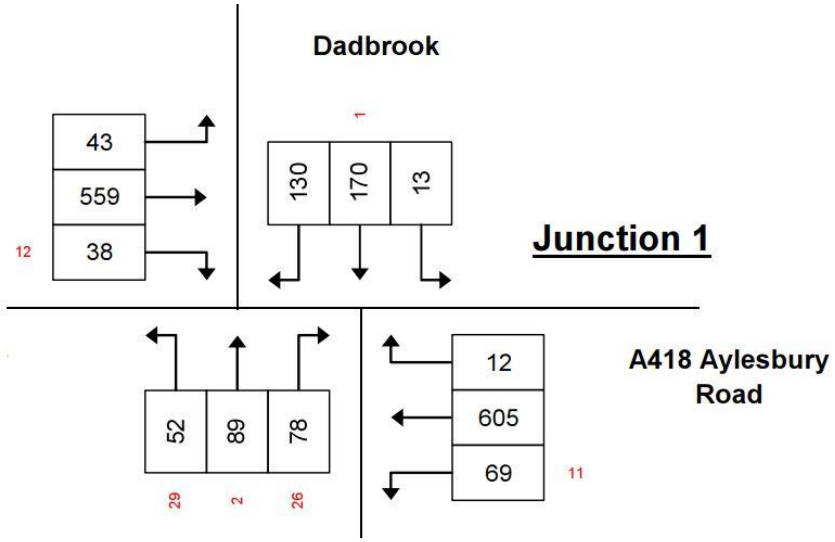
Table 2-1: Traffic Flow and Speed data

Accident Reference Number	AADT (1 Way)	85th Percentile Speed
Aylesbury Road Westbound	5738	57.4mph
Aylesbury Road Eastbound	6595	55.6mph
Church Road Northbound	1506	49.2mph
Church Road Southbound	1599	49.3mph

2.2.2 This confirm that speeds a generally within the speed limit on Churchway but exceeding the speed limit on Aylesbury Road. No data was available for Dadbrook.

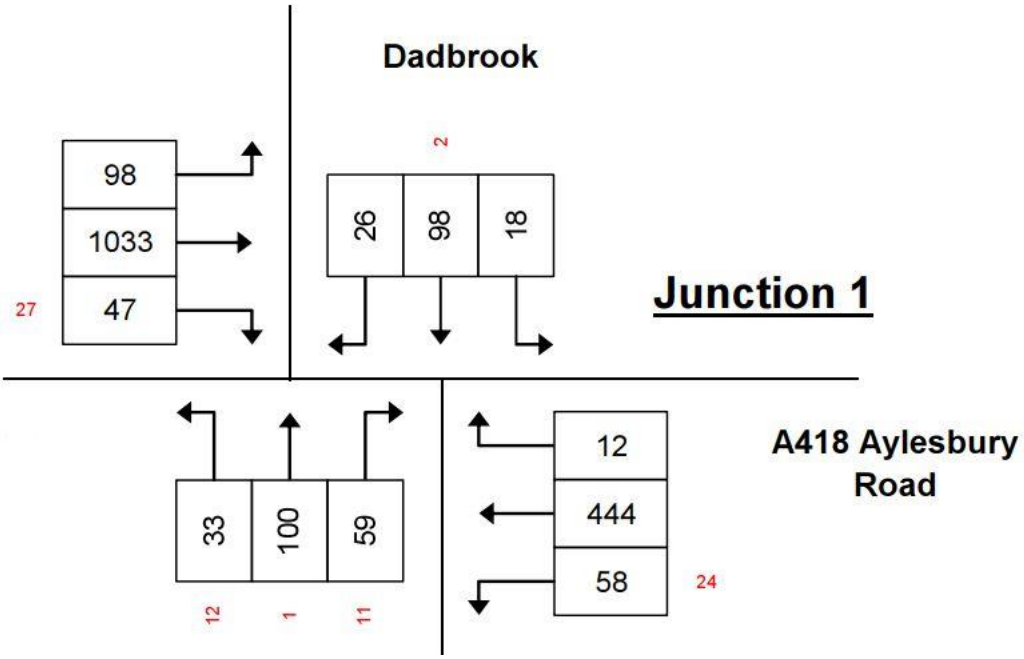
2.2.3 The Transport Assessment also included AM and PM peak turning data at the junction for the 2017 assessment year and 2027 future year scenario. Figure 2-2 and 2-3 below show the turning movements in the AM and PM Peak hours for the future year scenario with the Churchway Development. The numbers in red represent HGV numbers.

Figure 2-2: 2027 AM Peak Hour Turning Movements (with Churchway Development)



2.2.4 In the AM peak, 5.7% of vehicles are turning right from Aylesbury Road into Churchway, and 1.7% are turning right into Dadbrook. 40.6% of vehicles are travelling north from Churchway to Dadbrook, and 53.3% travelling south from Dadbrook to Churchway.

Figure 2-3: 2027 PM Peak Hour Turning Movements (with Churchway Development)



2.2.5 In the PM peak, 3.9% of vehicles are turning right from Aylesbury Road into Churchway, and 2.3% are turning right into Dadbrook. 52% of vehicles are travelling north from Churchway to Dadbrook, and 69% travelling south from Dadbrook to Churchway.

2.3 Accident data

2.3.1 Accident data is derived from crashmap.co.uk and the records are since 2017.

2.3.2 A review of the official accident data indicates that since 2017, five collisions have been reported in the vicinity of the King's Cross Junction. It is understood most of the collisions occurred when leading vehicles trying to turn right, through the ghost right turn lane conflict with following vehicles committing to the through movement.

2.3.3 Table 2-2 provides a summary of the recorded accidents. Four out of five have occurred in daylight hours whilst three accidents occurred in dry conditions. Collision information has been included in Appendix A.

Table 2-2: Accident Data

Accident Reference Number	Date of Accident	Vehicles Involved	Number of Casualties
2017430023132	12 January 2017	2	1
2017430248056	15 August 2017	3	1
2018430043494	09 February 2018	3	1
2020430011363	11 January 2020	1	1
2021430576963	23 December 2021	2	2

2.4 Junction Layout

2.4.1 Historic data indicates the junction used to be a crossroads arrangement dating back to 1940s. It is understood that the current staggered arrangement was introduced approximately in the 1950s to improve the junction following the increase of vehicular traffic in the area. Figure 2-4 shows the latest recorded OS map of the King's Cross Junction in a crossroads arrangement, whilst Figure 2-5 shows the staggered arrangement which operates currently.

Figure 2-4: Historic Map of King's Cross Junction

Figure 2-5: King's Cross Junction – Current Layout

3 Existing Junction Compliance Review

3.1.1 PJA has undertaken a compliance review on the existing junction arrangement to understand where the junction may be sub-standard and further understand where accidents may be occurring.

3.1.2 Aylesbury Road is an unlit 50mph single carriageway link road, and both Dadbrook & Churchway are unlit, 50mph minor connecting roads. The Design Manual of Roads & Bridges (DMRB) is therefore deemed the most appropriate standard for a compliance review.

3.1.3 A DMRB CD 109 (Link Design) & CD 123 (Geometric design of junctions) compliance review has been undertaken for a ghosted right turn lane arrangement for an 85kph design speed, which is equivalent to a 50mph signed limit.

3.1.4 The review highlights that the deceleration length of the right turn lanes is significantly below minimum of 55m, measured on google maps at 20m for Churchway Junction and 18m for Dadbrook junction.

Table 3-1: DMRB Compliance Table

Geometry Parameter	Design Requirement	Existing Geometry
Through Lane Width	>3.0m	3.10m – 3.20m
Right Turn Lane Width	>3.0m	3.0m
Deceleration Length	>55m	**18m – 20m**
Direct Taper	15m	**4m**
Queue & Turning Length	10m minimum	25m
Forward Visibility	120m One Step Below Desirable Minimum	120m achieved
Junction Visibility	4.5m x 120m	4.5m x 120m
Carriageway Width	7.3m	7.3m
Horizontal Curve Radius	R510m Desirable minimum (5% SE)	R510m

3.1.5 Whilst much of geometry for the Aylesbury Road is compliant for the design speed, the lack of adequate deceleration length correlates with the accident data which suggests accidents are occurring as a result of turning vehicles slowing abruptly in the through lanes to undertake the right turn.

3.1.6 The purpose of deceleration length is to allow right turning vehicles sufficient distance to safely decelerate from the high-speed road in order to make a right turn, such that they are not heavily braking on the through lanes themselves.

3.1.7 From the Glanville 2027 future year turning movement data, the number of vehicles turning right into either Dadbrook or Churchway is relatively low in the AM and PM peaks. However, the number of north-south through movements is quite high, and these movements could also be contributing

to the accidents at the junction, as vehicles are pulling out onto a high-speed road to undertake an immediate slow moving right turn.

3.1.8 In addition to this, the 85th percentile speeds measure on Aylesbury Road, also indicate that vehicles are travelling 10-14% in excess of the signed speed limit.

4 Compliant Junction Design

4.1 Design Options

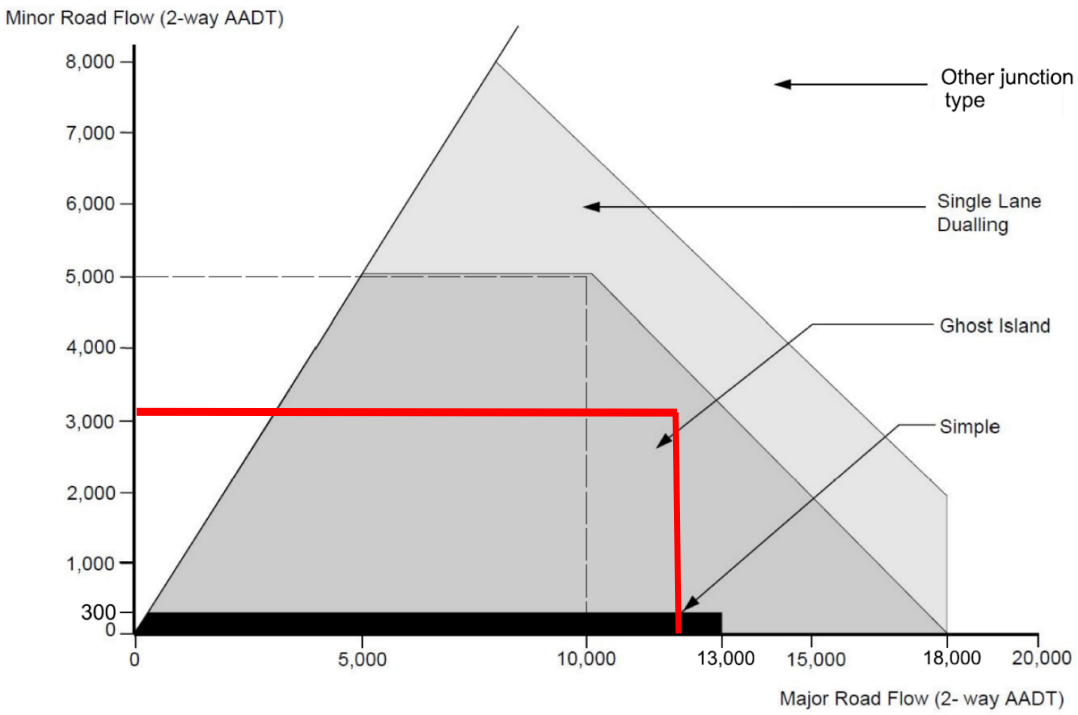
4.1.1 Following the Compliance Review, PJA has considered design options to provide a compliant junction design, and a shorter-term safety scheme to improve junction safety. A number of options have been considered taking account of the existing land ownership boundaries, Highway boundary, and costs of delivering a junction improvement.

4.1.2 The possibility of banning one right turn to provide a single, compliant right turn deceleration length for one of the manoeuvres was also discussed but would likely affect the connectivity to Aylesbury Road for one village so has been discounted at this stage.

4.1.3 The option of upgrading the junction to a roundabout has been discussed with both Parish Councils but has not been taken further at this stage based on a number of factors.

4.1.4 Based on the 2017 traffic flow data referred to above the approximate two-way traffic flows on Aylesbury Road and Churchway have been plotted on a graph from DMRB CD123, which shows that a ghost island junction arrangement is acceptable for the current flows, noting this only considers flows and not detailed turning movements.

Figure 4-1: Extract from CD123 – suitable junction types based on flows.



4.1.5 A roundabout form of junction could help to reduce vehicle speeds on the Aylesbury Road, and aid turning movements from the side roads, however this would be a more costly option and likely require multiple land-take. Roundabouts also require street lighting so this would need to consider impacts on local ecology.

4.1.6 The case for a roundabout would be determined by future traffic assessments for additional development in the area. Depending on the scale of this would determine whether additional traffic generated would require alternative junction forms to be considered above the current ghost island arrangement. If confirmed development suggests a roundabout would be viable, a more detailed assessment of this option could be considered at the time.

4.1.7 For the purpose of this review, we have assumed the junction form would remain as a staggered ghost right turn junction.

4.2 Proposed arrangement

4.2.1 The proposed design seeks to provide the required deceleration length for both right turns to Dadbrook Road & Churchway Road.

4.2.2 The current arrangement of the junction is a 'left-right' stagger which whilst permitted is less desirable than a 'right-left' stagger. The latter is preferred from a safety perspective as it is more spatially efficient and removes the risk of vehicles pulling onto the mainline slowly in order to then turn right. This is particularly relevant with the identified north-south through movements in the Glanville transport assessment.

4.2.3 However, traffic on the side roads wanting to travel north to south or south to north could experience increased delay with a right-left stagger arrangement as they will require gaps in both flow directions on Aylesbury Road to undertake the manoeuvre.

4.2.4 The preferred design requires the re-alignment of the Churchway Junction to the west of Dadbrook to create a 'right-left' stagger arrangement. This design is shown on drawing 06062-SK-003 in Appendix B.

4.2.5 Consideration was given to the possibility of re-aligning the Dadbrook arm, however due to land and visibility constraints it was discounted. The possibility of re-aligning both arms to reduce the land take on the south was also considered but discounted as it would require physical works to both arms which would be less cost effective.

4.2.6 The re-alignment of Churchway would be achieved by providing two 127m radius horizontal reverse curves. In accordance with CD109, the horizontal curves proposed would require a departure from standard however, considering their proximity to the junction and the character of Churchway this

would be considered appropriate, as actual vehicle speeds approaching the junction would be naturally reduced and so the layout is deemed a justifiable departure.

4.2.7 Additionally, further widening of the carriageway west of the proposed junction would be required, on land which is currently existing highway verge, to provide adequate lane widths, as per CD123. An existing ditch adjacent to the carriageway verge would be required to be potentially reconstructed.

4.2.8 Further improvements for pedestrians have been incorporated to provide improved connectivity from the existing bus stops to the villages. The bus stops on Churchway have been re-aligned and a 3m wide footway introduced leading to an uncontrolled crossing on Aylesbury Road continuing adjacent to the west kerbline of Dadbrook for approximately 37m, to improve connectivity and safety of Cuddington residents crossing Aylesbury Road.

4.2.9 The pedestrian refuge island introduced is currently 1.85m wide but could be increased to a minimum of 3m wide to accommodate an uncontrolled cycle crossing at the same location to support the north-south rural cycling across Aylesbury Road. This would require minor alterations to the design as shown and should be considered if junction improvement were to be progressed in the future.

4.2.10 This design has been produced to illustrate how a compliant staggered ghost right turn junction may be achieved, recognising that this would require significant investment to deliver.

5 Interim Safety Scheme

5.1.1 Following discussions with Cuddington & Haddenham Parish councils, the proposed compliant junction design solution would not be deliverable without significant funding from the Highway Authority or tied to future development funding.

5.1.2 PJA has also considered an interim safety scheme which would be a lower cost option that could be considered to improve the safety of the junction in the interim. Whilst these measures will not address the departures of the existing layout, they aim to reduce the approach speeds and visually highlight the junction.

5.1.3 All of the proposals would retain existing kerblines and street furniture, and no land take would be required.

5.1.4 Road markings along the visibility envelope of the junctions would be refreshed with additional 'Slow' markings added to the junction approaches. A visually contrasting High Friction Surfacing extending 50m away from the junction has been proposed to visually enhance the presence of the junction.

5.1.5 Additional warning signs have been added to the two Aylesbury Road approaches to the junction and it is considered that these could be vehicle activated signs to improve their effectiveness over static signs.

5.1.6 Finally, a 2.5m footway link connecting the existing bus stop south of Churchway leading to a pedestrian uncontrolled crossing to Dadbrook is provided, similar to that proposed for the compliant design option.

5.1.7 This was considered important to both Parish Councils to assist with Cuddington residents using the bus services to cross Aylesbury Road safely. The footway link would be positioned to avoid the existing ditch, minimising the impact on existing infrastructure.

5.1.8 The footway link on Churchway should be achievable within the verge, but an off-line option through the adjacent field could be delivered through negotiation with the landowner.

5.1.9 As with the previous option, the pedestrian refuge island introduced is currently 1.85m wide but would need to be increased to a minimum of 3m wide to accommodate an uncontrolled cycle crossing at the same location to support the north-south rural cycling across Aylesbury Road. This would be more difficult to achieve in an interim layout as additional widening the Aylesbury Road would be required to achieve this width and additional clearance to the island.

5.1.10 The interim scheme proposals are shown on drawing 06062-SK-004 in Appendix C.

6 Summary and Conclusion

6.1.1 This report has reviewed the existing Kings Cross junction from a design compliance and safety perspective.

6.1.2 Two options have been prepared to improve road safety, one which complies with the geometric design requirements of DMRB and one which introduces interim safety improvements.

6.1.3 It is understood, a compliant re-alignment of Churchway would be difficult to achieve considering the associated costs and land requirements, however, an intermediate solution of revising road markings and improved signage and surfacing could reduce the risk of accidents by enhancing the presence of the junction to drivers.

6.1.4 Overall, both options include an improved pedestrian link from the existing bus stop on Churchway to the uncontrolled crossing through Aylesbury Road to Dadbrook, improving the connectivity for Cuddington residents. If any alterations were to be carried out, consideration should be given to enhancing this crossing to facilitate the rural cycle crossing.

6.1.5 It is recommended that this report is shared with Buckinghamshire County Council to explore opportunities for implementing an interim safety scheme and longer-term funding to deliver a compliant junction linked to possible future development.

6.1.6 It should be noted that the form of junction would be largely dictated by the scale of future development and increased number of trips generated. This may well require consideration of alternate junction forms such as a roundabout to understand the effect on traffic movements for both Haddenham and Cuddington Parishes.

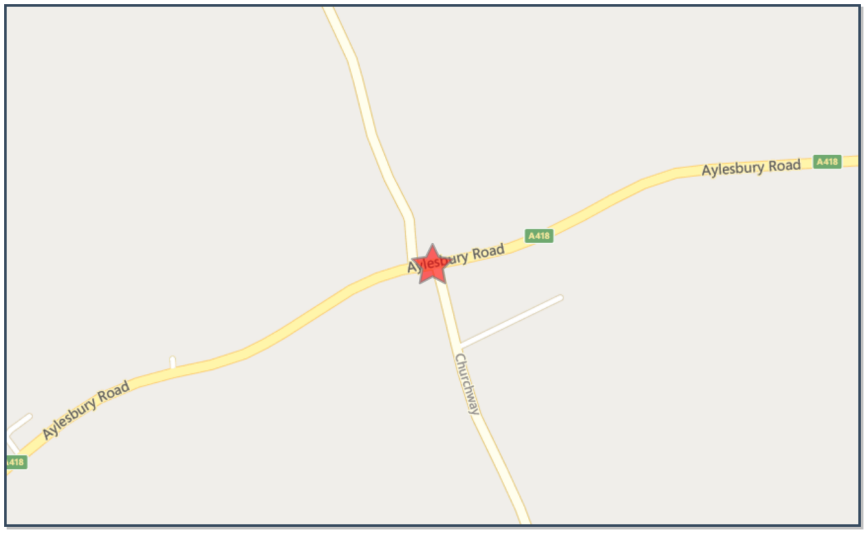
Appendix A Collision Information

crashmap.co.uk

Validated Data

Crash Date:	Thursday, January 12, 2017	**Time of Crash:**	10:40:00 AM	**Crash Reference:**	**2017430023132**

Highest Injury Severity:	Slight	**Road Number:**	A418	**Number of Casualties:**	1
Highway Authority:	Buckinghamshire			**Number of Vehicles:**	2
Local Authority:	Aylesbury Vale District			**OS Grid Reference:**	474128 210159
Weather Description:	Fine without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	50				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
To subscribe to unlimited reports using CrashMap Pro visit *www.crashmap.co.uk/Home/Premium_Services*

powered by agilysis

Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	14	Male	46 - 55	Vehicle proceeding normally along the carriageway, not on a bend	Front	Unknown	None	None
2	Car (excluding private hire)	8	Male	66 - 75	Vehicle is waiting to turn right	Back	Unknown	None	None

Casualties

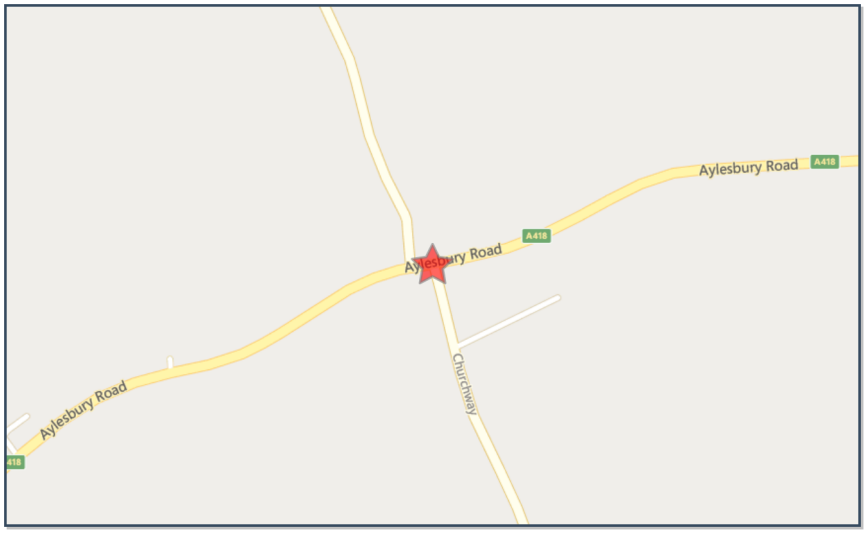
Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Male	46 - 55	Unknown or other	Unknown or other

crashmap.co.uk

Validated Data

Crash Date:	Tuesday, August 15, 2017	**Time of Crash:**	6:10:00 PM	**Crash Reference:**	**2017430248056**

Highest Injury Severity:	Serious	**Road Number:**	A418	**Number of Casualties:**	1
Highway Authority:	Buckinghamshire			**Number of Vehicles:**	3
Local Authority:	Aylesbury Vale District			**OS Grid Reference:**	474132 210161
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	50				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
To subscribe to unlimited reports using CrashMap Pro visit *www.crashmap.co.uk/Home/Premium_Services*

powered by agilysis

Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Motorcycle over 500cc	2	Male	26 - 35	Vehicle is passing another moving vehicle on its offside	Front	Commuting to/from work	None	None
2	Car (excluding private hire)	1	Male	66 - 75	Vehicle is in the act of turning right	Back	Unknown	None	None
3	Car (excluding private hire)	-1	Unknown	Unknown	Vehicle is in the act of turning left	Did not impact	Unknown	None	None

Casualties

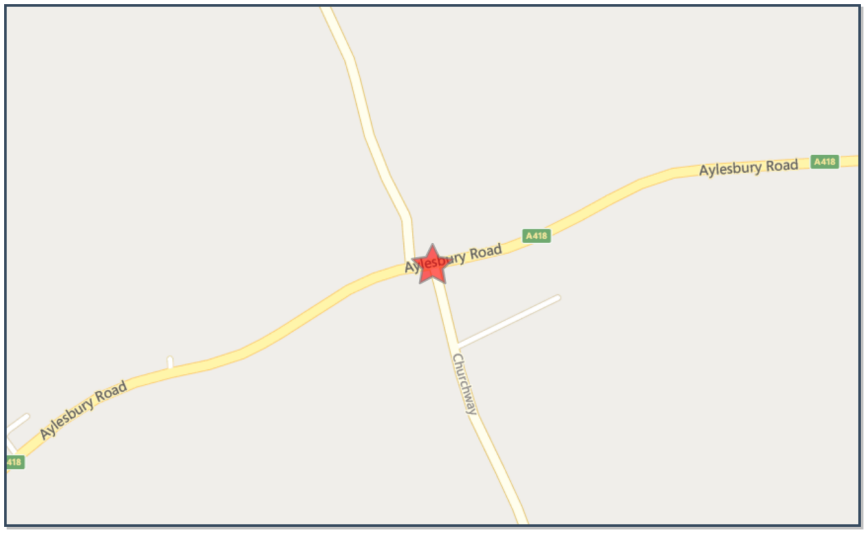
Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Serious	Driver or rider	Male	26 - 35	Unknown or other	Unknown or other

crashmap.co.uk

Validated Data

Crash Date:	Friday, February 09, 2018	**Time of Crash:**	2:15:00 PM	**Crash Reference:**	**2018430043494**

Highest Injury Severity:	Slight	**Road Number:**	A418	**Number of Casualties:**	1
Highway Authority:	Buckinghamshire			**Number of Vehicles:**	3
Local Authority:	Aylesbury Vale District			**OS Grid Reference:**	474132 210160
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	50				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
To subscribe to unlimited reports using CrashMap Pro visit *www.crashmap.co.uk/Home/Premium_Services*

powered by agilysis

Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	1	Female	46 - 55	Vehicle proceeding normally along the carriageway, not on a bend	Front	Journey as part of work	None	None
2	Car (excluding private hire)	1	Female	36 - 45	Vehicle is waiting to proceed normally but is held up	Back	Unknown	None	None
3	Car (excluding private hire)	2	Male	26 - 35	Vehicle is waiting to turn right	Back	Journey as part of work	None	None

Casualties

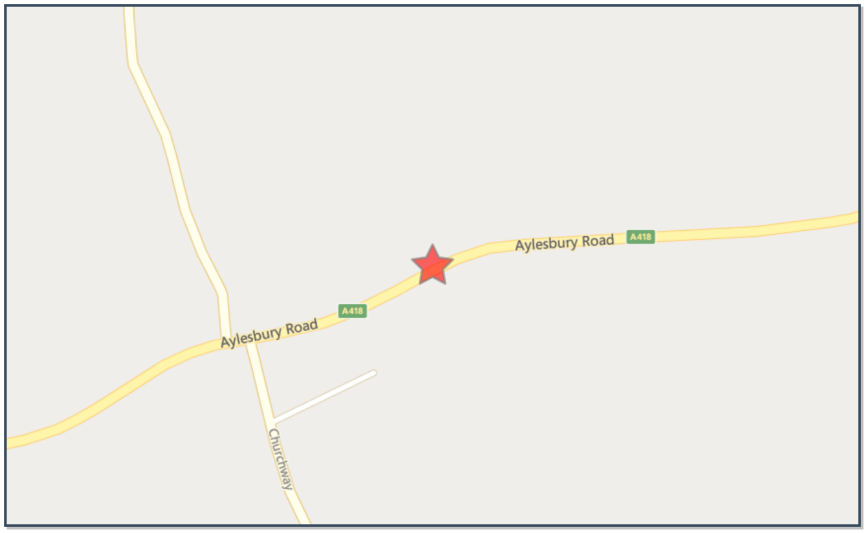
Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Female	46 - 55	Unknown or other	Unknown or other

crashmap.co.uk

Validated Data

Crash Date:	Saturday, January 11, 2020	**Time of Crash:**	3:15:00 AM	**Crash Reference:**	**2020430011363**

Highest Injury Severity:	Slight	**Road Number:**	A41	**Number of Casualties:**	1
Highway Authority:	Buckinghamshire			**Number of Vehicles:**	1
Local Authority:	Aylesbury Vale District			**OS Grid Reference:**	474407 210270
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	50				
Light Conditions:	Darkness: no street lighting				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
To subscribe to unlimited reports using CrashMap Pro visit *www.crashmap.co.uk/Home/Premium_Services*

powered by agilysis

Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	6	Male	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Front	Unknown	None	None

Casualties

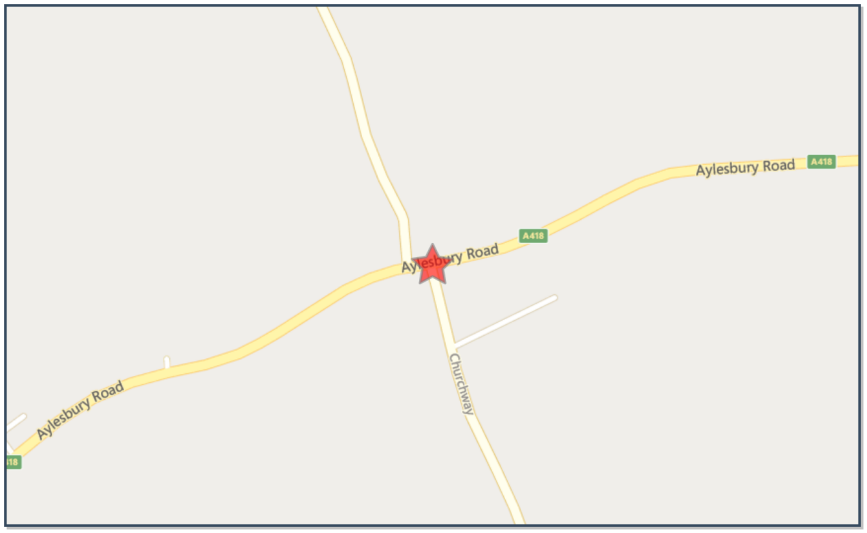
Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Male	26 - 35	Unknown or other	Unknown or other

crashmap.co.uk

Validated Data

Crash Date:	Thursday, December 23, 2021	**Time of Crash:**	9:55:00 AM	**Crash Reference:**	**2021430576963**

Highest Injury Severity:	Slight	**Road Number:**	A418	**Number of Casualties:**	2
Highway Authority:	Buckinghamshire			**Number of Vehicles:**	2
Local Authority:	Aylesbury Vale District			**OS Grid Reference:**	474137 210160
Weather Description:	Raining without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	50				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
To subscribe to unlimited reports using CrashMap Pro visit *www.crashmap.co.uk/Home/Premium_Services*

powered by agilysis

Validated Data

Vehicles involved

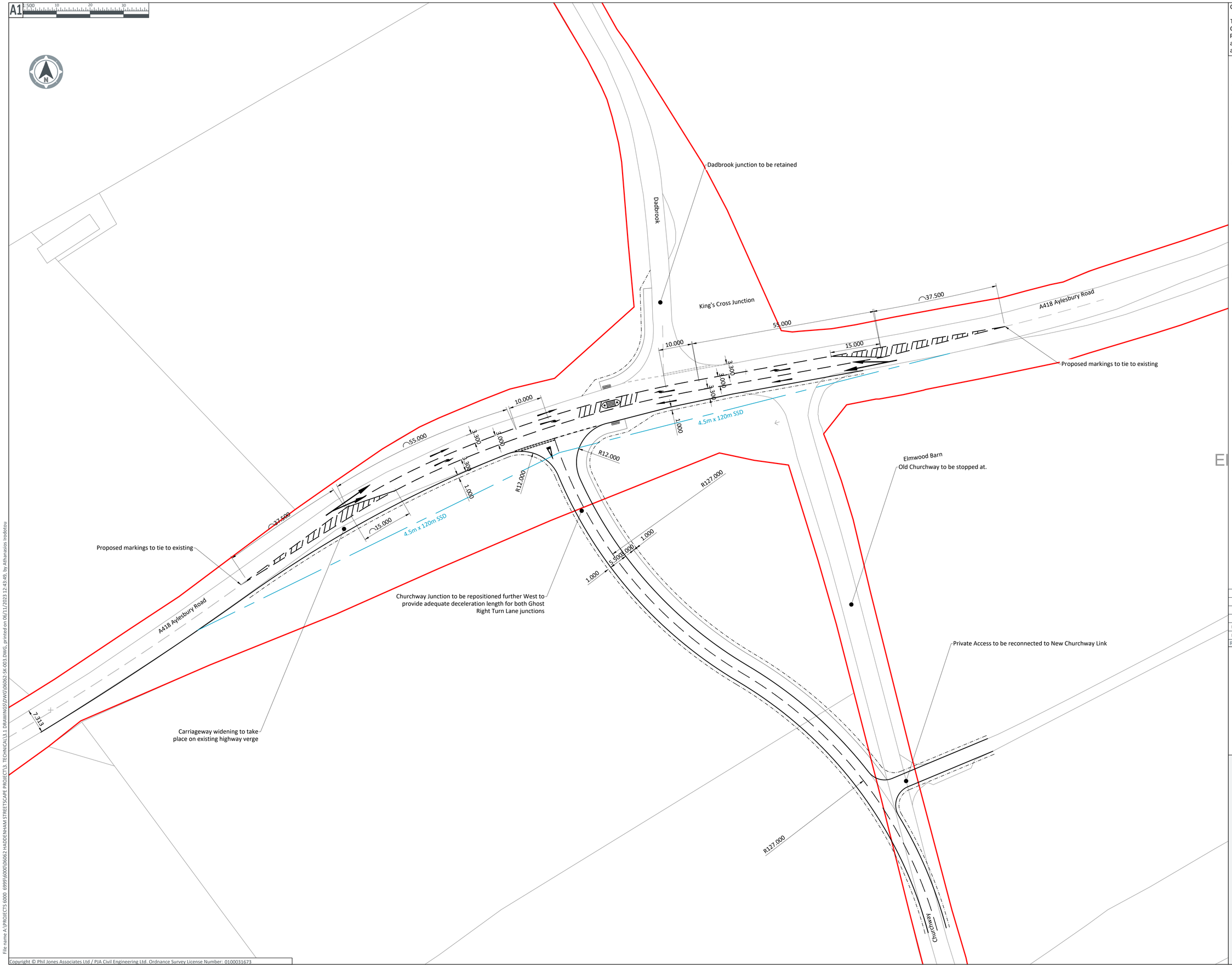
Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	7	Female	Over 75	Vehicle is in the act of turning right	Front	Unknown	None	None
2	Car (excluding private hire)	-1	Female	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Unknown	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Female	Over 75	Unknown or other	Unknown or other
1	2	Slight	Vehicle or pillion passenger	Female	Over 75	Unknown or other	Unknown or other

Appendix B Compliant Junction Design

A1 1:500 10 20 30



CDM Note

These drawings have been produced with reference to the CDM Regulations 2015.
Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with Regulation 9.

Notes

1. Do not scale from this drawing.
2. All Dimensions in metres unless stated otherwise.
3. The purpose of this drawings is to demonstrate the potential land-take required whilst providing a DMRB compliant solution to the staggered junctions of Churchway and Dadbrook along Aylesbury Road.
4. This drawing is based on Ordnance Survey (license number: 0100031673)
5. Highway Boundary information has been provided by Buckinghamshire Council
6. Aylesbury Road has a speed limit of 50mph therefore the link road design details are in accordance with DMRB CD109 as per below:
   - 6.1. R510m Minimum with 5% superelevation
   - 6.2. 160m SSD desirable minimum
   - 6.3. 7.3m wide single lane carriageway
7. Churchway has a speed limit of 50mph, however given the third party land-take constraints and the rural character of the road, a smaller horizontal radius is proposed to relocate the junction with Aylesbury Road further west. A departures from standards form shall be completed upon agreement of the proposed alignment.
8. The Ghost Right Turn Lane arrangements for both Churchway and Dadbrook have been revised to adhere to the DMRB CD123 therefore:
   - 8.1. Repositioned Churchway Junction further west of Dadbrook Junction to improve deceleration lengths.
   - 8.2. 55m Deceleration length
   - 8.3. 1:25 taper
   - 8.4. 15m Direct Taper
   - 8.5. 10m Queue and Turning Length
   - 8.6. 3.3m Through Lanes
   - 8.7. 3.0m Right Turn Lanes
9. Churchway realignment has been designed as per below:
   - 9.1. 5.5m wide Carriageway as continuation of existing
   - 9.2. 1.0m wide verge
   - 9.3. 127m horizontal curve Radii (DfS required)
   - 9.4. 120m SSD
   - 9.5. 4.5m x 120 SSD on Junction with Aylesbury Road
   - 9.6. 12m Junction Radius as per previous junction layout
10. The design is preliminary and subject to discussion with the planning and highway authority.
11. Please refer to PJA Report 06062-RP-001 for Junction Compliance review and option summary.

Key

- Existing Highway Boundary
- Proposed Channel/Kerbline
- Proposed Verge
- Tactile paving
- Bollard

Rev	Date	Revision Note	Drw	Chk	App
P02	06/11/2023	MINOR AMENDMENTS	TI	SG	SG
P01	22/08/2023	FIRST ISSUE	TI	SG	SG

PJA
transport • engineering • placemaking
Birmingham | Bristol | Cambridge | London | Manchester | Reading
Melbourne | Perth
pja.co.uk | pja.com.au

Client
Haddenham Parish Council

Project
Haddenham Streetscape Project

Title
King's Cross Junction Improvements

Drawing Issue Status
For Information

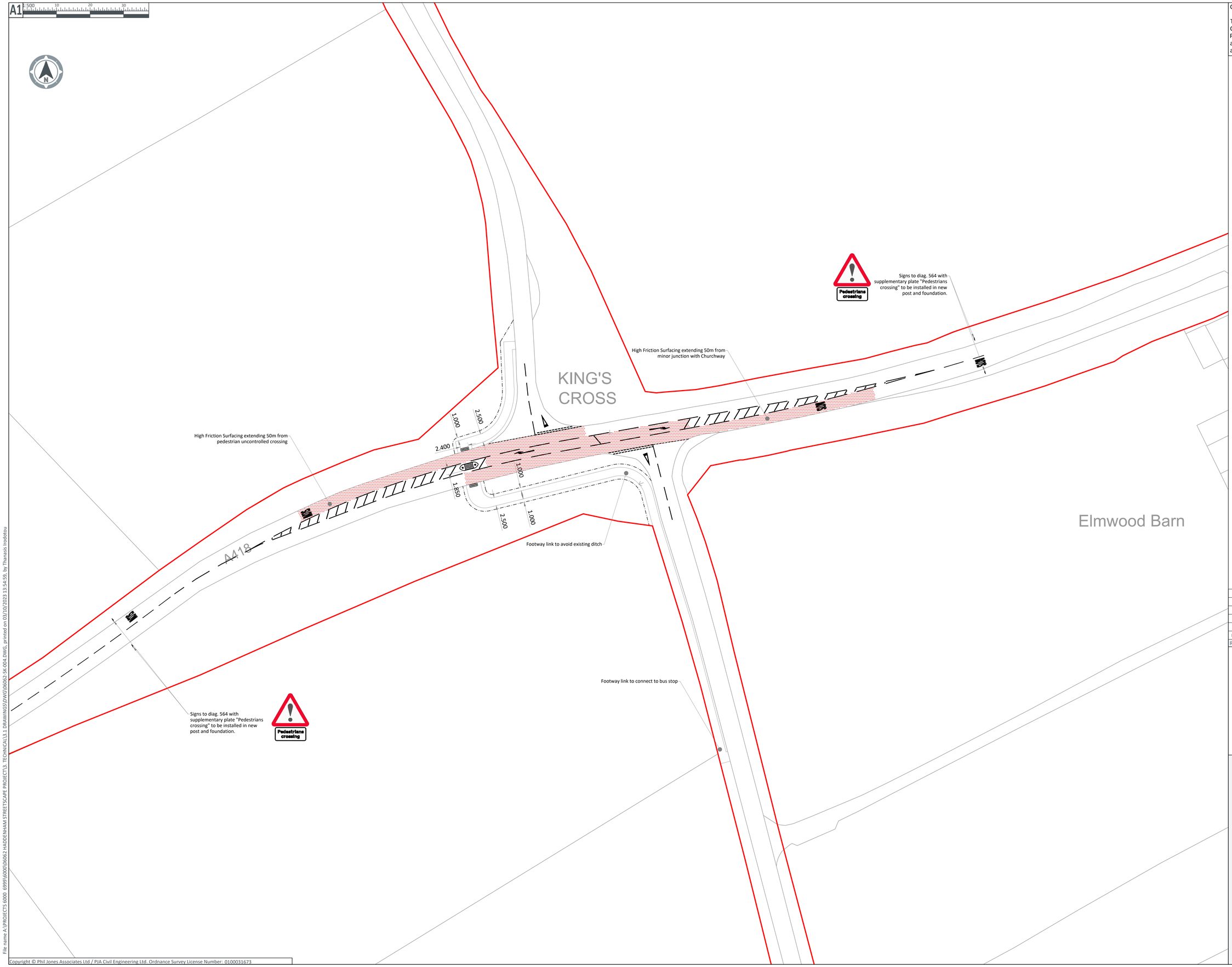
PJA Ref: 06062
Scale @ A1: 1:500
Date: 22/08/2023
Drawing No.: 06062-SK-003
Revision: P01

Primary Contact
annabel.keegan@pja.co.uk

File name A:\PROJECTS 6000 6999\6000\06062 HADDENHAM STREETSCAPE PROJECT\3. TECHNICAL\3.1 DRAWINGS\DWG\06062-SK-003.DWG, printed on 06/11/2023 12:43:49, by Athanasios Ircdotou

Appendix C Interim Safety Scheme

A1 1:500 10 20 30



CDM Note

These drawings have been produced with reference to the CDM Regulations 2015.
Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with Regulation 9.

Notes

1. Do not scale from this drawing.
2. All Dimensions in metres unless stated otherwise.
3. The purpose of this drawings is to demonstrate a short term low-cost solution to improve the safety of the staggered junctions of Churchway and Dadbrook along Aylesbury Road.
4. This drawing is based on Ordnance Survey (license number: 0100031673)
5. Highway Boundary information has been provided by Buckinghamshire Council
6. Aylesbury Road has a speed limit of 50mph therefore the link road design details are in accordance with DMRB CD109 as per below:
   - 6.1. R510m Minimum with 5% superelevation
   - 6.2. 160m SSD desirable minimum
   - 6.3. 7.3m wide single lane carriageway
7. Churchway & Dadbrook have a speed limit of 50mph.
8. The design is preliminary and subject to discussion with the planning and highway authority.
9. Please refer to PJA Report 06062-RP-001 for Junction Compliance review and option summary.

Key

- Existing Highway Boundary
- Proposed Channel/Kerbline
- Proposed Verge
- Tactile paving
- Bollard
- High Friction Surfacing

Rev	Date	Revision Note	Drw	Chk	App
P01	06/10/2023	FIRST ISSUE	JS	TI	SG

PJA
transport • engineering • placemaking
Birmingham | Bristol | Cambridge | London | Manchester | Reading
Melbourne | Perth
pja.co.uk | pja.com.au

Client
Haddenham Parish Council

Project
Haddenham Streetscape Project

Title
King's Cross Junction Improvements Option 2

Drawing Issue Status
Draft

PJA Ref	Scale @ A1	Date
06062	1:500	06/10/2023

Drawing No.
06062-SK-004

Revision
P01

Primary Contact
annabel.keegan@pja.co.uk

File name:A:\PROJECTS 6000 6999\6000\06062 HADDENHAM STREETSCAPE PROJECT\3. TECHNICAL\3.1 DRAWINGS\DWG\06062-SK-004.DWG, printed on 03/10/2023 13:54:59, by Thanasis Irodotou